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SINGLE DAHLIAS, ½ SIZE



MARCH, 1884.

AT THE LATE MEETING of the Agricultural Association, in New York, the Bureau of Agriculture was severely criticised. One of the members, Mr. TINKHAM, said that he had one of the little bags of Wheat sent from Washington, and from the one bag were produced on his farm four kinds of Wheat, three kinds of Barley and one kind each of Oats and Rye. A bag of Turnip seed was sent to him, and not one of the seeds grew. One of our readers, under date of February second, writes us a note, and encloses a franked postal card, received from the Department of Agriculture, which reads as follows :

WASHINGTON, D. C., January 3, 1884.

SIR : At the request of Hon. ———, we send you a package of vegetable seed. The object of this distribution is the promotion of the interests of agriculture, by introducing into the various sections of the country such new and valuable products as may be adapted to the soil and climate of each.

Very respectfully, GEO. B. LORING, Commissioner.

The writer says : "SIR, As you appreciate good sense, I enclose card received by my husband from the 'seedsman to Uncle Sam.' The said seeds being Giant White Tripoli Onion, and Cuban Queen Watermelon, they must be tremendously adapted to the climate of northern Pennsylvania. However, I shall plant them and report results. Seed peddling under government employ must require a vast amount of talent, judgment, &c."

How long will the people of this country, by their silence and tacit acquiescence, continue to allow this absurd farce of a free seed distribution to be officially enacted by our government? The whole Department is evidently prostituted by aspiring politicians, seeking to advance their interests in their respective districts. It is subservient to them in a despicable way, and it has long been so. Departing from the original intention of its establishment in affording a means of sending to different parts of the country seeds and plants of new varieties of merit that would not be apt otherwise to be disseminated, it has become a sluice-way through which, with some things that are good, flow the screenings of the seed trade of the world. We sincerely hope that never, while this department is capable of being abused as it now is, may its head become a member of the President's cabinet.

Perhaps it is too much to expect of human nature, to suppose that the Commissioner alone can breast the tide that so strongly and dangerously sets against the virtue of the average voter, and the purity of a free government, and we may, therefore, allow the mantle of charity to screen him, at least to some extent, while we lay the charge of this unfortunate state of affairs to the ignorance and inexperience of the whole community, the voters at large. We, however,

cannot longer be blameless if we refuse to notice and to take steps to abolish this system of patronage and political corruption. We do not wish now to notice this subject in its various aspects, but have been led to say this much by force of circumstances, believing that that by calling attention to it our readers will be led to give it the serious thought is due to it, and that its debasing character will be more clearly perceived as we look at it in a proper light. It is a subject to be dealt with by horticultural and agricultural societies, and trades unions can have no more legitimate work than to direct their opposition to it.

HORTICULTURAL MEETING.

The annual meeting of the Western New York Horticultural Society, held in this city on the 23d and 24th of January, was well attended and proved to be particularly interesting and profitable. The President, P. BARRY, in his address, while reviewing the fruit crops of the past year and noticing the general failure of Apples, stated that "only a few sorts weathered the storm. The Duchess of Oldenburg was one of these, and fairly maintained its reputation as an 'iron-clad.' The crop was full and perfect on my grounds, and I believe on others. The Maiden's Blush was another, the crop full and fair. I have rarely, if ever, known these two sorts to fail in their bearing year." Fruit-growers who were more or less disheartened were urged to take courage, to re-double their energies, to intelligently combat injurious insects, and to improve their methods of cultivation.

JOHN J. THOMAS read an interesting paper on planting lawns and school grounds. Many other valuable papers were presented.

In regard to some varieties of fruits it was quite generally admitted that the Cuthbert as a red Raspberry was the most profitable for market. Among the Black Caps the Ohio was thought to be one of the most valuable.

The Wilson's Albany Strawberry was, by most of the members, considered still a valuable variety to the fruit-grower.

The Lombard Plum was particularly recommended for orchard culture.

In a paper on planting ornamental trees

by GEORGE ELLWANGER, the writer said: "Dispute it who may, no place is furnished without its border of trees and shrubs, whether in their spring bloom and beauty, or as in the evergreens, luxuriant in their perennial verdure; by their employment we can shut out an unpleasant feature in the landscape or extend a desirable view."

SINGLE DAHLIAS.

To many of our readers a single Dahlia would, without doubt, be a novelty. A few, however, have already raised varieties with single flowers from seed, which germinate freely, others from bulbs. We have been so accustomed to see the double varieties that the single ones appear as entirely different flowers. It is a pleasure to come back to the natural form. In comparing the single and the double forms we find the same variety and brilliancy of colors, and the same habit of growth in the plants; but the contrast in the forms of the flowers is wonderful. We have always admired the double Dahlia, with its almost perfect symmetry, and its petals all made after one pattern, and placed in position with almost mathematical precision, and especially the tall-growing varieties of it. It is very stately, very high bred, and suggests cultivation. But you feel as if you must stand a little apart, it is not a flower you care to take in your hand or to touch. Art has molded it in accordance with its own inherent laws of growth, and produced an admirable form; but when we place beside it one of the natural flowers we perceive at a glance how much simple grace and beauty have been sacrificed to obtain this result. We can admire the symmetry and the mathematical precision of the fluted columns in a grand architectural structure, but we lack the sense of beauty with which we are inspired by the tall forest tree. The double Dahlia shall stand to us as a signal achievement of the gardener's skill, and as such shall have honored place, but for our vases and baskets of cut flowers we want the single varieties. The varieties shown in our colored plate bear testimony to their beauty far better than our words, and it cannot be long before these plants will find enthusiastic admirers and cultivators throughout our country.



WINDOW BOXES.

Among the numerous plans for the coming summer made by the great army of flower lovers all over the broad land, I hope many have included one, two or more window boxes. It can be said in their favor that they offer one of the easiest methods of gardening, and one of the prettiest forms of out-door decoration; and to the large class, who, through ill health or many cares, are debarred from the ordinary flower garden, they are especially suitable. They give also rare chances for richness of tone and harmony of color, and an artist's work may be as plainly visible in a well-filled window box as in many more pretentious things.

I was especially struck with this latter fact, one day, last summer, when before the windows of an old farm house I saw so beautiful a combination of form and color that I stopped and begged permission to examine closely. The request was readily granted, and drawing aside the mat of clinging vines, the lady of the house showed me how the brackets that held the window boxes were fastened in place with large screws, and could be easily removed, and the boxes made of unpainted Pine nailed together. Up each side of the window was a rustic ladder, made by fastening a slender Cedar stick about four feet long in each corner of the box, then tacking bits of twisted mossy branches irregularly back and forth till the desired height was reached; then longer pieces formed an arch over the top. In one box a white *Abutilon* formed the center piece, with scarlet *Geraniums* and sweet breathed *Heliotropes* on either side, while delicate *Maurandias*, with their dainty leaves and blossoms, twined around and over the rustic supports. Then, mingling with the stronger growing *German Ivy*, *Senecio*

scandens, fell in long festoons from the arch above. Bulbs of *Oxalis Deppei*, which had been tucked in here and there, furnished abundance of prettily marked leaves, and the outside of the box was completely hidden by a perfect mat of *Othonna*, *Tradescantia*, *German Ivy* and *Dew Plant*. The other box had a large, double, purple *Fuchsia* in the center, with white *Geraniums* on either side, surrounded by quantities of *Mignonette* and the same charming confusion of drooping vines. These boxes were sheltered by a veranda, but had an unlimited supply of sunshine during the middle of the day, and were perfect marvels of luxuriant growth.

Not long afterwards I saw another window box, not so showy, but with shy, sweet grace, enough to win any heart. It was made of Pine, ornamented with bits of Cedar split in two and tacked on, and draped with the green and white variety of *Tradescantia*. The lattice work at the back was covered with dark-eyed *Thunbergias*, and the remaining surface was filled with deep blue *Lobelias*. The contrast was exquisite, and it seemed as if another touch of colors would have spoiled it.

Begonias are among the most suitable plants for this kind of gardening, and the tuberous-rooted varieties reduce the labor to a minimum. A box on my own veranda, last summer, contained four of the latter, while *Madeira Vines* clambered over the lattice work of slender *Willows* to the ends, and wreathed the upper part of the window with their own peculiar drapery of cool, green leaves, and faintly sweet flowers. A quantity of variegated *Periwinkles* completed the effect. On the approach of cold weather, such a box can be easily removed to warmer quarters, gradually dried off, and then placed

in a frost-proof room or dry cellar until the following spring.

A collection of Fuchsias, half a dozen different kinds, in a large box is also charming, and unlike specimen pot plants, they can be left to their own devices, and neither trimmed nor trained.

For a good-sized box no vine is more desirable than the *Cobæa scandens*, and it is easily grown from seed. Two little pots filled with moist earth and placed side by side in an empty match box, the spaces around them tightly packed with wet moss, the seeds planted edge down, the whole covered with a pane of glass, set in a warm place and not watered, have year after year started beautiful little plants for me. After the seeds have germinated, they ask little favor of any one, and their rapidity of growth is something marvellous. Their tiny, clinging hands are laid on everything within reach, and long before the flowers make their appearance the vines are "things of beauty."

For a box of ornamental foliage plants the selection is easily made; only let me tell you one thing not generally known. Nothing adds so much to the charm of the rich, glowing colors of foliage plants as a judicious mixture of Ferns, and some of our native ones are quite equal to the greenhouse varieties. Taken up in early spring, before the fronds have begun to unroll themselves in the sunlight, and put here and there among brilliant Coleus or crimson Dracænas, they will grow and thrive either in shade or sunshine, and lend grace and beauty to their surroundings. Rustic boxes filled entirely with Ferns, and wild Grasses, and draped with Mitchella vines, may deck a sheltered veranda all summer, and then do duty at a north window as Ferneries all winter.

Cyperus alternifolius, also, though usually recommended for Wardian Cases, will give charming effects among Bouvardias or Abutilons in a large window box, and Sweet Peas and Mignonette are always acceptable. Sweet Peas must be covered three or four inches when sown, or the vines will soon turn yellow and droop away without a single blossom.

A pretty idea is to suspend a little hanging basket from the center of the arch over a window box. A Cocoa-nut shell filled with Smilax, a bit of bark from an old Hemlock knot with Othonna

drooping therefrom, a sea shell gemmed with blue Lobelia, a square of White Birch bark folded together in cornucopia fashion and holding a Maiden Hair Fern—all these are pretty and suitable.

In regard to the size, shape and ornamentation of the boxes much will depend on the plants chosen. For strong, quick-growing ones, depth of soil and plenty of root room are required, while for the lower-growing and delicate ones shallow boxes are more desirable. One thing bear in mind; no art can decorate equal to the forms, colors, shadings, intricate loopings and draperies of healthy vines and flowers, so there is no necessity for elaborate ornament in the box itself; it should always be subordinate to the plants therein. The soil should be light and rich, and the supply of water must be ample. Without due attention to the last sentence no success can be hoped for.—C. M. ARNOLD.

THE DAISY.

Bellis, the botanical name, is probably related to the Latin, *bellus*, pretty, and the French *marguerite*, to the Latin, *margarita*, a pearl, while the English name is from the Saxon, *daeges-eye*, daisy's eye, as it opens early in the morning. It used to be worn, in mediæval times, by ladies and knights when they frequented the tournament. ALÆSTIS, wife of ADMETUS, king of Phærae, in Thessaly, was called the daisy queen, as she was supposed to have been transformed into that flower.

I have several beds thickly bordered with this modest flower, and the snow is scarcely gone before it begins to bloom, and even now, November, notwithstanding numerous hard frosts, they, in company with the Pansies, are beaming amid the desolation. In June they are at their best, then thousands of them are in bloom. They are perfectly hardy and multiply very rapidly. Seed sown in May will make blooming plants in September. Its language is, innocence and beauty, and very appropriate it truly is. BRYANT associates it with a pure young child.

"Innocent child and snow-white flower,
Well are ye paired in your opening hour;
Thus should the pure and lovely meet,
Stainless with stainless, and sweet with sweet."

—MRS. M. D. WELLCOME.

CENTRAL NATIONAL HOME.

This Military Home for Disabled Volunteer Soldiers is located on a tract of land comprising five hundred and forty acres, about three miles from Dayton, O., "and is considered the largest and most flourishing institution of its class in the world." Its elevated site overlooks the city and the beautiful scenery of the Miami valley for miles around.

tistics connected with this institution have proved so fascinating as almost to intrude themselves into an article that might very properly contain but the one name of CHARLES BECK, the florist and gardener, and be but a continuous word-painting, descriptive of blossoming pyramids, serpentine borders, glowing mottoes, blooming parterres, artistic outlines, masses of color, contrasting hues, and, in



THE CHAPEL.

The commissioned officers of this Central Home are, Governor, Gen. M. R. PATRICK; Treasurer, Col. J. B. THOMAS; Secretary, Maj. W. H. LOUGH; Steward in charge of Subsistence Department, Maj. M. F. WATSON; Surgeon, Dr. A. H. STEPHENS; Chaplain, WM. EARNSHAW, and Matron, Mrs. E. L. MILLER.

Although the object of this brief sketch and its illustrations is to represent especially the floral attractions of the place, as befitting not only the character but the capacity of this MAGAZINE, yet the sta-

short, of a general effect as though the purple, gold and crimson of countless sunsets and rainbows had only vanished in the past to be absorbed by this paradise of bloom.

By comparing the number of soldiers "cared for" in the different "branches" of the National Home, as taken from the last published official report for the year ending June 30, 1882, we get not only the total number fostered by the government, but also an estimate of the relative proportions of the different Homes.

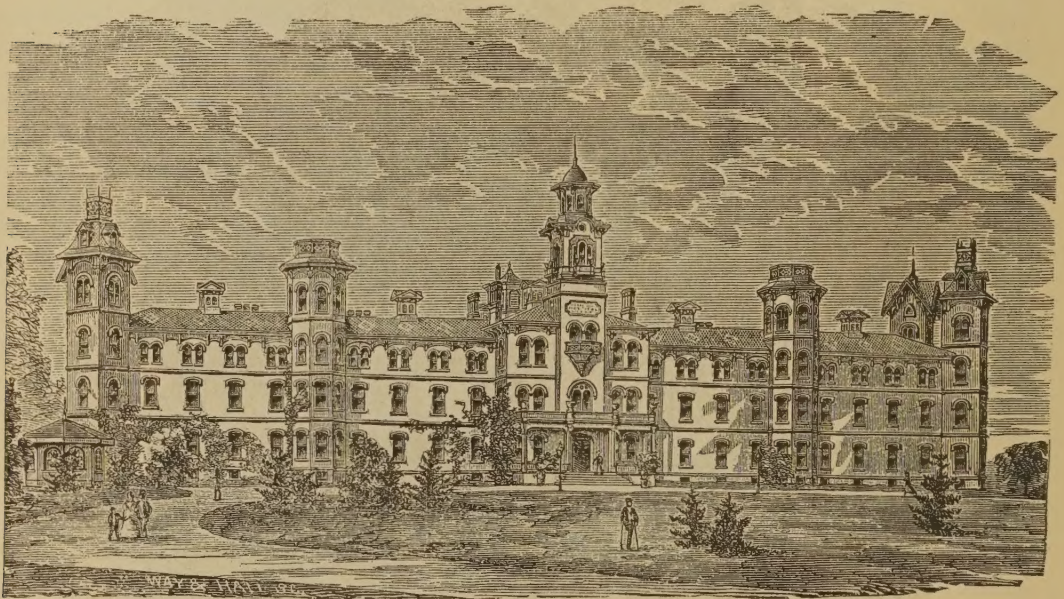
Central Branch, Dayton, O., number cared for,	5,914
Eastern Branch, Augusta, Me.,	1,536
Northwestern Branch, Milwaukee, Wis., . .	1,343
Southern Branch, Hampton, Va.,	1,263
Of foreign birth at Central Branch	3,680
Born in the United States,	2,234
Number of Pensioners,	1,776
Amount of Pensions received,	\$254,279
Number of deaths during the year,	298
Gain by admission,	941

The annual average cost of subsistence was about twenty-one cents per ration, as against about eighteen cents the previous year, when provisions were cheaper.

Of three hundred and twenty-one soldiers present June 30, 1882, who could neither read nor write, seventy-two per cent, were of foreign birth.

Weekly average of pieces from laundry . . . 33,460

Typical of the spirit of the place the stars and stripes are floating overhead, while ranged at intervals are seige-guns and mortars, pyramids of shot and shell, and a battery in position, from which semi-daily salutes mark the rising and setting of the sun. From the same standpoint may be seen in front the "head-quarters" building containing the chief offices below, and the Putnam and Thomas libraries above; the chapel and chaplain's residence; the hospital and cottage of resident surgeon; the monument, a round shaft of white marble surmounted by a statue of a soldier, with life-size figures below, representing the infantry, cavalry, artillery and navy; a



THE HOSPITAL.

Number of letters and cards mailed,	127,460
Number of letters and cards received,	94,000
Number of volumes in libraries,	12,215
Weekly and daily papers and magazines . .	3,294
Of visitors during the year, there were . . .	159,036
Of vehicles admitted,	25,121
Flowers sold for cash during the year,	\$3,294

"Of avenues, or drives, there are thirty-two miles in all," named for the different States of the union.

As we leave the "Home Avenue Railway Depot" to visit the "Soldiers' Home," familiarly so called, we ascend by a flight of steps to a broad, sloping avenue, and passing the guard, a wide, open space soon reached, whence the eye may sweep from right to left, taking in a view of surprising interest and loveliness.

conservatory; lakes; rustic bridges; deer park; residences of the governor, treasurer, secretary and steward; Memorial Hall; a portion of the barracks, comprising thirty-four three-story buildings; the three-story grand dining hall; minor buildings for domestic purposes; workshops; the band pagoda; the Home store and the quartermaster and commissary stores. Glimpses of all these, where not obstructed by invading foliage, may be had from one position. Many other places might be mentioned, including the printing and telegraph offices, police headquarters, guard house, porter's lodge, etc., but lack of space forbids.

A post office under government au-

thority receives its mail under the address of the "National Military Home, Montgomery Co., O."

The cemetery, in a grove of tall trees, is a place of touching interest, and recalls to mind the lines already quoted in connection with the place, which, with slight change, seem especially appropriate.

"Close his eyes; his work is done;
What to him are friend or foe-man,
Rise of moon or set of sun,
Hand of man or kiss of woman!
As many may, he fought his fight—
Proved his worth by his endeavor;"
'Tho, he's passed from mortal sight,
Yet his soul lives on forever.

mata, *Livistonia olivæformis*, *Musa ensete*, *M. glauca*, *M. Cavendishii*, *Pritchardia filamentosa*, *Latania borbonica*, *Caladium giganteum*, *Philodendron pertusum*, *Phœnix dactylifera*, *Cocus palmata*, *Ficus elastica*, *Agave Americana*. Besides these, and many others, are large Orange and Lemon trees, and a choice collection of *Dracænas*, *Euphorbias*, *Cacti*, large Fig trees, *Oleanders*, all best and newest Roses, and a general collection of choicest bedding plants.

Mr. CHARLES BECK, formerly of Rochester, N. Y., has been in charge of the grounds as Chief Florist and Landscape



THE STONE ARCH.

There is one large conservatory that deserves especial mention. It is built for a Palm house, and is ninety feet long, thirty feet wide and thirty-five feet high. Among their choicest plants are found the following named in fine large specimens: *Kentia Fosteriana*, *Areca lapida*, *Beaucarnea recurva*, *Strelitzia regina*, *Pandanus utilis*, *Maranta zebrina* and other varieties of the same, *Chamærops humilis*, *Cycas revoluta*, *C. circinalis*, *Areca Verschaffeltii*, *Carludovica pal-*

Gardener for the past nine years. A vegetable garden (of only eighty acres!) is also under his supervision. However constant must be the demands upon his personal oversight he is only one among many whose coercive duties are to be fulfilled with military precision. Even the life of the Chaplain is filled to compression, so to speak. A weekly average of four protestant burial services forming but a small proportion of the claims upon his time. What then can be said of the



THE CASCADE.

head of this vast ex-military community! The fact that Gen. M. R. PATRICK holds the position he does must speak for itself. He has recently established a system of passes which will lessen the perplexity always connected with the restraint of many on account of the few. Those who forfeit their passes may now be silent.

To reach the garden, after making a tour of the grounds and buildings, we may go down a flight of steps at its southern extremity, from the foot of which extends a broad, curving walk, which soon brings us to a spring at the left, over-arched by the bank above, and we curiously note that its flowing waters abruptly disappear beneath the surface. From this point the walk curves to the right, and passing on a few steps we come to a broad, deep pool at the right hand. Turning our backs upon this we see in front of us a stone arch thickly covered with handsome trailing vines and overhanging foliage. Standing beneath this we find another flight of stone steps, which bring us at last to the bottom of the broad glen where lies the garden. Against one base of the arch stands a finely-grown specimen of Banana. And lo! here sud-

denly appears the hidden spring water, fairly laughing at us as it flashes downward in a silvery cascade, making fitting music for the golden carp that are playing at hide-and-go-seek in a still pool between it and the stairs.

Glancing up the archway steps we scarcely see the broad walk, beyond are the large moist and mossy stones lying at the base of a bank running back and around the great pool, in front of which we so recently stood admiring the arch.

We now turn about, and going past the cascade walk but a few paces until an abrupt curve of the bank is reached, where a large basin of spring water lies within a natural grotto. Its outer and inner walls are beautifully mottled with various hued plants and blossoms, every crevice being filled with something that seems quite at home in its lodging place. At the left side of the grotto stands a rack of long handled dippers whose mute invitation to all who thirst we thankfully accept. Standing here and glancing forward, the broad walk now stretches along the west side of the glen, and we look through a vista arch-roofed with ming-



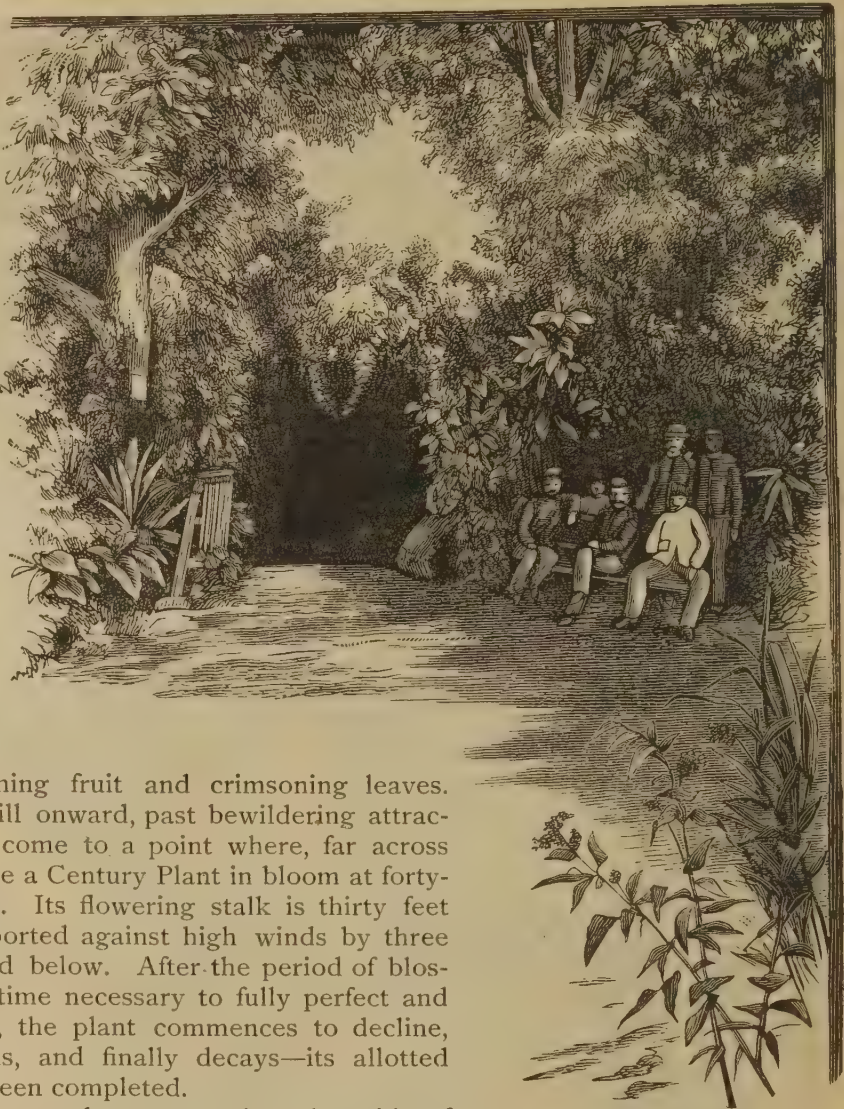
ling foliage from either side, along which, near the right, are settees for the accommodation of any who seek the shade and coolness of this sylvan retreat.

To go forward is a temptation, but it best suits our present purpose to return, and follow the walk along the east side of the glen. We first notice a perfect grove of Bananas, a favorite picture of the Governor's, we were told, when laden with ripening fruit and crimsoning leaves. Thence, going still onward, past bewildering attractions, we finally come to a point where, far across the garden, we see a Century Plant in bloom at forty-five years of age. Its flowering stalk is thirty feet high, and is supported against high winds by three cords firmly fixed below. After the period of blossoming, and the time necessary to fully perfect and mature its seeds, the plant commences to decline, gradually shrivels, and finally decays—its allotted term of life has been completed.

Going farther on, and across to the other side of the garden, and entering a greenhouse by a flight of steps, we pass from one to another and at last find ourselves upon the upper level once more. Then selecting a position near by for a final view, we look down upon a floral picture of most ravishing beauty.

Finally, at the suggestion of the Governor, we are permitted a special privilege, and are courteously shown to the top of Memorial Hall, from which we get a bird's-eye view of surpassing loveliness, not only embracing the city in the valley below, but a beautiful expanse of country all about us, the charming nucleus of which being this institution, with its cluster of buildings and picturesque environs.

Descending to the balcony, we look down upon the choicest display of "ribbon work" that can well be imagined. Divested of its marvellous shading of



NATURAL GROTTO.

colors—from vivid crimson to gray and silver-white—it would be difficult to realize its actual beauty. (See illustration next page. Our presence, visible at such an elevation, has hastily gathered stray visitors from the near avenues, vainly expecting to gain access to the same position. Despite their questionings the gardener cutting flowers stolidly works on; but the knight of the broom wheels about and coolly surveys us.

With keen regrets that the group below us is not a soldier-capped one instead, with the same brave, loyal hearts beating in their breasts that responded to their country's call in her hour of need, we silently wend our way to terra firma, and soon are speeding toward the Valley-city. —MRS. M. B. BUTLER.



PREPARING FOR SUMMER.

To those who have a greenhouse or conservatory well kept by a competent gardener, these few remarks will be of less use than to those who love flowers and have a small conservatory, and the windows of one or two rooms, at the most, to renew their supply for the garden of the choice plants which have made their homes so cheerful during the long winter.

It is taken for granted that those who have window plants have not taken up the old, which bloomed all summer, but that slips or cuttings of them were made about the first of August, or up to the first or middle of September, and rooted in a box of sand in some warm, shady place in the garden or yard, and that when the time came to put them in the house or window they were nice, thrifty growing plants, and now are blooming and sending out new branches. Now, some of these new branches are just what are wanted for the spring planting. I do not wish it to be understood that plants that require a long time to grow them to nice specimens, such as the Hibiscus, Abutilons, Cape Jasmine, and other similar plants, should not be removed from the garden in the fall. I always raise such plants in pots, often making slips of them, so that when the parent plant gets too large, I have nice young ones growing, and then give the large ones to some one who has more room for them. But I now refer more particularly to Geraniums, Heliotropes, some of the Begonias, Cupheas, Double Sweet Alyssum, Coleus, Tradescantias, and some of the choice Nasturtiums, which were raised from seed last spring, and many others. White Carnations, Bouvardias, and Roses of the Tea variety, I slip now with the rest, but I raise them in some part of my garden until the time comes to pot them, which I do not later than the first of September, letting them remain out till the time comes to take all in. They are then cut back well till they get well established in their new homes, and are throwing out good strong shoots on which the bloom comes with renewed determination to show me what good care I have given them.

The first named kinds I have no trouble to slip, and have all I want for myself, or more, often giving mother, MARY and

friends some choice plant which I raise in the following manner: I have a box about eighteen inches long and four inches deep in which I have quite four inches of nice, clean, sharp sand, such as masons use to make good mortar with, sifting out the large pebbles and putting them in the bottom of the box, making it about one inch deep, and then use the rest to fill the box nearly full. In this box of sand I put all the slips I can get about the first of March, taking all the cuttings I can from the plants without marring their beauty. I always find the smaller slips or cuttings the best to root. I use a good sharp knife to cut the bottoms of the slips at an angle of about forty-five degrees, taking great care not to bruise or squeeze it, which I find to be the cause of failure with most of those who say they have no luck in rooting cuttings. I trim off the largest of the leaves, leaving two, or sometimes only half of them, with the bud.

These are put well down in the sand, and I keep adding to the box such slips as I can get from time to time, not only of those of my own plants, but often getting some of my best and choicest plants from baskets and decorations at social entertainments. By the middle of April my box will be full of well-rooted slips, the box being kept in the window in the warmest place in my conservatory, which is six by nine feet, and six feet high at the front. By keeping the cuttings close to the glass and keeping the sand always wet, often sprinkling with a fine rose, and sometimes wetting with luke-warm water, I have little or no trouble to raise all the plants I need. I raise at least three-quarters of all the cuttings I make. I did not do so well at first; could not get even more than one-half of them, but with such information as I received from the MAGAZINE and other sources, and a close observation of the practices of others, I have no trouble to raise slips, if the cuttings are good.

I find it takes longer for me to root slips than it does the florist, but care and patience have always paid me, and will others, especially in raising plants, either from cuttings or seeds. The time it takes me to get good roots on slips of Geraniums, Begonias, Heliotropes, Nasturtiums, Coleus, and such soft-wooded plants, is from two to three weeks, and

Fuchsias, Bouvardias, and all the hard-wooded plants, from three to five weeks. I always get fully repaid for the care and extra trouble my plants cost me by having such nice ones, and knowing that I raised them myself.

When the cuttings are well rooted, I take them out of the sand carefully, so as not to pull the roots off, and pot them in good, rich soil, and keep them growing until warm weather comes; when they are removed to the garden, and there grow and give me the long looked-for pleasure. Many of my friends say, "I don't see how you get such nice plants, and the varieties are of the best, and often the florist will charge for a single plant from twenty-five to fifty cents."

With those plants which I keep from year to year, and those raised from seed and cuttings I always have a full supply of the choicest flowers, and when the winter comes I have my little conservatory more than full from cuttings made in August and September, always raising new plants and taking up the old ones, or only those raised for winter bloomers. With these, and such bulbs as bloom in winter—the Oxalis, red, white and yellow, Tulips, Hyacinths and Narcissus, with a cold-frame full of Pansies and one of Violets, and one of Lettuce, with a few roots of Parsley, I have that which will make a home cheerful all the winter long.—J. L. Y., *Essex Co., N. J.*

GYPSOPHILA MURALIS.

It frequently happens to many of us that we underestimate the value of a plant because we fail to understand the conditions under which it should be grown. This is particularly the case with the annual variety of Gypsophila. As a single plant in the garden it would scarcely attract attention, unless a delicate spray of green with minute pink flowers were wanted to mingle with the other flowers of a bouquet; but grown in dense masses, it possesses a singular, and for some purposes, valuable beauty. It is a self-seeder, even in a climate where the thermometer will sink to 30° below zero, and the plants come up like dense patches of delicate green moss, in late fall or early spring, or in severe winters, under the protection of the withered old plants. It transplants very easily, and if you desire to have in your garden some ornamental

figure, letter or name, form it out of Gypsophila dug with a trowel from out of these patches. It will need little or no watering, if inconvenient to give it such, and will soon grow into a dense mass of delicate, moss-like, light green sprays, surmounted by thousands of minute, pale pink, starry flowers. It grows six or eight inches in height, and the shears may be used freely, if desired to keep it in perfect shape and form.

As a border for flower beds, it is unequaled. It becomes a dense, compact mass, delicate and graceful in appearance, unless given stiffness by close shearing, from which, however, a few days' growth will relieve it.

As an addition to bouquets, it possesses particular merit, and growing so densely it can be freely used for such purpose without marring the outlines of the border or device in the garden.—X.

THE RASPBERRY FOR MARKET.

Raspberries are among the most hardy and easily raised of small fruits. Land producing good crops of grain or roots will yield fair returns when planted with the Raspberry. Yet, while this plant will endure imperfect soils and scanty culture much better than the Strawberry, the best results only can be had by thorough cultivation and high feeding. Raspberries consist of black, red and yellow varieties, and hereafter in this paper the word black will be used to designate one variety, and red for the other two, excepting when named. No small fruit does better with partial shade than the Black Caps. For the last six years we have had good crops from the Doolittle in an orchard set in 1865, trees six to ten inches through. We raise two rows of berries between the rows of trees, and the Apple trees are only twenty-six feet apart each way.

Plants of the black varieties are propagated from the tips of the canes; the best plants being produced from those bushes first set the preceding spring; all plants showing disease or weak growth should be rejected. The red varieties are propagated from suckers, or, better still, from root cuttings in nursery rows, and should have their canes well ripened.

The black varieties should be set only in spring, and as early as the condition of the ground will allow. Plants for setting

ought not to be taken up till about the time they are needed, and should be kept fresh, avoiding exposure to sun and wind. The red varieties may be safely set late in fall, and in many cases will do better if planted then. If they should be set in the spring they should be moved early. When plants can be had on the same farm, or in the same town, both kinds may be successfully planted later in the spring when the new growth has become four to six inches high; the method of transplanting being about like that for transplanting Tomatoes of that height. Setting green plants is often a convenience, although it involves more care, and is a much slower method.

The black varieties may be planted in rows seven feet apart and the plants two and one-half to three and one-half feet apart in the rows; and the red, in rows six feet apart, with the plants from two and one-half to three and one-half feet apart in the rows. The red varieties are planted by eastern growers in rows running both ways, with the stools four to five feet apart. When planted three feet by six feet two thousand four hundred and twenty plants are required to an acre; at three feet by six and one-half feet two thousand two hundred and thirty-three plants, and at three feet by seven feet two thousand and seventy-four plants.

The first year's cultivation consists in keeping the ground clean by the use of the cultivator and the hoe. In the fall, when the tips of the canes of the black varieties are ready, which can be told by their color and appearance, bury the ends two to three inches deep, going over the field twice for this purpose at an interval of a week or ten days. Late in the fall apply one-half of a large fork-full of manure to each space between the plants; both the black and red varieties should be treated in this manner. The manure serves as a mulch for winter protection of the roots, and is also an invaluable fertilizer as dissolved and washed down by rains and melting snow.

The second year, as soon as the growth is two and one-half to three feet high, and not more, go through the field and pinch off the tips of all the canes. A week later go over again, nipping off all the tips overlooked, or those that were too small the first time. In the fall re-

peat the application of manure, as mentioned above. In the late fall remove all the old canes, but in places subject to deep snowfalls we advise letting the old canes of the black varieties remain till the following spring.

Picking and marketing are important operations. In cool weather pick once in three days, and when warm or rainy, each alternate day. Black Caps, if not allowed to get too ripe, will bear shipping from fifty to one hundred and fifty miles. Most varieties of red Raspberries are not fit to ship more than fifty miles, and even with the utmost caution losses in shipping red berries is almost unavoidable. The great bulk of the Raspberry crop is used by the canning factories. Two cents a quart is the standard price paid for picking, and boys and girls will average from twenty-five to fifty quarts in a day of ten hour's work.

Three varieties each, both of the red and black kinds, will be the least any grower for market should cultivate. Of the black, we advise the Souhegan for the first early, Tyler for second early, Doolittle and Ohio for medium, and Gregg for late; of red, Hansell for the first early, Turner second early, Philadelphia and Reliance medium, and Cuthbert late. All the above have been fully tested, and are entirely safe to plant. I know of no variety of the yellow or orange Raspberry being grown here for field cultivation. Several years ago I tested Brinckle's Orange, but it was entirely too tender. Any variety raised by the acre must be hardy to be valuable.

The average crop of an acre of the Black Caps will range from fifteen hundred to three thousand quarts, and the average yield of the red varieties about the same. On our grounds a half acre planted on a piece fitted for a crop of Multiplier Onions, with the drills fifteen inches apart, and the Raspberry plants set in each fifth row, gave a first crop of about eight hundred quarts for the half acre; the second crop, of which an accurate account was kept, was, of berries marketed, a trifle over two thousand quarts, besides supply for family of six. The variety was the Doolittle. During this season, which was exceptionally cool and with frequent showers, fresh berries were picked for the table for four successive weeks. The season for marketing

lasted three weeks. Last season, the price at the factory was eight cents a quart for Black Caps, and ten cents for red berries.—S. S. CRISSEY, *Fredonia, N. Y.*

HANGING BASKETS.

Hanging baskets and flat vases for flower growing have become a universal adornment within late years, but they are by no means of modern origin. PLINY refers to them under the name of *horti imaginarii*, artificial or imaginative gardens, or gardens in miniature. The hanging gardens of Babylon were on a colossal scale, and counted among the wonders of the world. They were constructed to gratify the humor of a queen, and perhaps, in part to economize space, as we do now by elevating railways. Babylon, however, included, it is said, two hundred square miles within its vast extent of thick, high walls, and as the gardens of the palace of NEBUCHADNEZZAR were elevated on arches at least seventy-five feet high, and had soil sufficiently deep for the growth of large trees, it is most likely that show, grandeur and pre-eminence dictated their erection. As a good French king preferred that all his poorest subjects should have a chicken in the pot rather than that his own tables should be loaded with delicacies, so our miniature hanging gardens of modern times, which everybody can have to admire and enjoy, are preferable to those vast erections of old, built by the hard labor of prisoners and slaves, and cemented with their blood.—W.

GARDENS IN WINTER.

Yesterday, looking out of my window at the earth covered with snow, I caught sight of a very pretty effect which has been made by an unpremeditated arrangement of shrubs. Against an Arbor Vitæ, standing in one corner of the yard, a Bittersweet vine displayed its warm orange and crimson clusters most vividly. It was like a picture with a dark background. That one touch of bright color toned up the cold hues and gave them life. The dark green foliage of the Arbor Vitæ was sombre in itself, but the Bittersweet brightened it up until the effect was like a memory of summer. Every branch of the Bittersweet was thrown into relief by the evergreen behind it, and it seemed almost as if nature had ar-

ranged things in this way in order to display the Bittersweet to the best advantage. That was the picture to be admired, the rest were simply accessories. The general result was delightful and set me to wondering why it is that so few of us plan our gardens with any reference to winter effects. We grow evergreens in many of them, but these are not calculated to make a landscape very cheerful when seen alone against a background of snow. They are too low in tone to brighten up the place. Add a small amount of bright color and the effect is delightful. It is surprising what an effect can be obtained by small means. One bush of scarlet berries seems to light up a whole corner. The bit of bright color in it pervades the garden. Have you never seen a woman in black garments, with perhaps a frill of lace at throat and waist? You felt a sensation of something lacking. Perhaps you did not analyze it sufficiently to find out just what this lack was, but you felt that the effect was not what it might be. Let the woman add a bright hued flower to the lace at her throat, and mark the change. That one point of color seemed to make the picture intense and full of life. The proper use of high colors does not consist in a liberal use of them, but rather in a sparing use of them with due regard to the laws of harmony and artistic taste. Used properly, a touch or two produces effects which persons who have given the matter but little thought would suppose it impossible to produce without being more extravagant. The thing to know is just how and where to use them.

We can make our gardens attractive in winter by putting a little thought into the arrangement of them. The evergreens will furnish background for vivid pictorial effects. The wild Rose with its scarlet haws, the scarlet-berried Elder, the crimson and orange Bittersweet, can all be made useful in various ways. The Bittersweet can be trained up some tree standing in front of an evergreen, and allowed to ramble about among the branches to suit itself. Here you will have a combination of effects. The bare branches of this tree will stand out against the evergreen, the snow and the sky, and there is beauty in every curve of them, if you have only taken the trouble to look for it. Here and there the fes-

toons of ruddy fruit give the idea of flowers appearing in mid-winter. Do you see the picture? A snow-covered landscape, mass of somber green, a cold, blue sky, and outlined against all the leafless limbs, with the Bittersweet clusters scattered here and there, warm, vivid luminous, with a sunshine that is more silvery in its winter radiance than it is golden, suffusing everything with its brightness?

If you want something full of brilliance, try the Sumach. Its bunches of velvety crimson darkening in shade to almost black, will harmonize well with Arbor Vitæ, and be in strong contrast. If you have no evergreens you can use these shrubs with good effect. The snow throws them into high relief, and makes them effective points of color in the landscape, but the presence of something in dark, low tones of color heightens the effect. As a general thing, our winter landscapes are in light, high tones, which need something more subdued to afford a sufficient amount of contrast to make them pleasing and relieve them from monotony. Give a proper balance of high and low tones, and brighten it with some vivid color and your winter garden need not lack beauty. Beauty of one kind it will always have, for the snow is beautiful, as are the naked branches of any shrub, but the most pleasing beauty is that which gives the eye something positive and decided to look at, either in color or design—something thrown forward on the eye and the mind more forcibly than the accessories of the picture. No picture is satisfactory in which every thing is treated as equally important. There must be prominence given to something. This idea of prominence can be produced by the use of color in our winter garden. Quite likely it will not be looked at often as a picture, with a regard for its details, but more frequently with regards to its effect as a combination of colors artistically arranged. Let us study the matter.

Since the above was written I have been on a walk into the country, and I had to stop once or twice to admire the effect of a scarlet-limbed shrub growing in swampy places, against some Pines; also of the Alders, whose branches are of such a rich color. Used with one of the golden Willows charming results can be produced.—EBEN E. REXFORD.

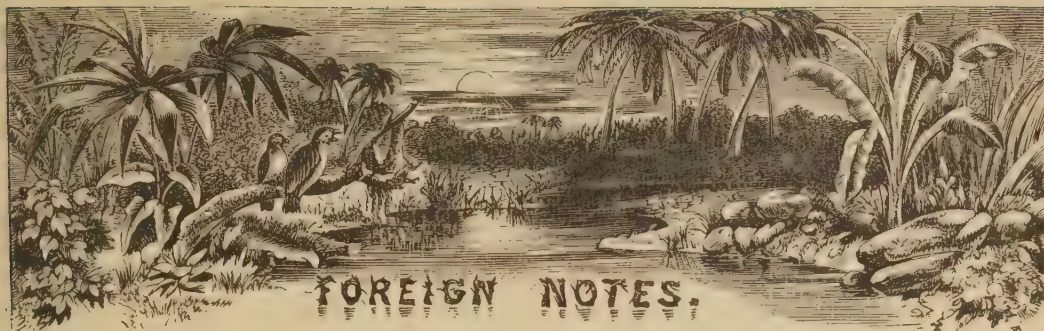
THE POWER OF DARKNESS.

The gardener who seeks to attain novel and superior conditions by artificial culture, places different plants, or the same in different stages, in very different conditions of heat, light, moisture, soil, &c., and has a variety of houses and pits adapted to develop different features by furnishing these variations of condition. A late number of the *Gardener's Chronicle* refers to the power of darkness as an element of importance that is seldom adverted to and rarely used, excepting that we cover seeds when we place them to germinate, although in regard to most of them darkness is not essential to the sprouting, and we often cover seeds too deeply, under the false impression that light must be excluded until they show the plumule, which it tends to develop in advance of the roots. Darkness is a well known aid in treating bulbs and cuttings which we desire to supply with a strong base of roots before any leaves form. French gardeners force white Lilacs, Spiræas, including the charming Hotæia, and Lily of the Valley in the dark to secure the most delicate purity of color, and either use leaves grown in the light or move the plants from dark to light in time to strengthen and tint the stem and to develop the chlorophyll in the leaves before the flowers lose their delicacy.—W.

FRUIT PROSPECTS.

The prospect for fruit at this time, in central Missouri, are in accordance with the following statements of facts. Peach buds are all killed, and no doubt all the old trees are killed. The half-hardy Grapes, and many that are considered hardy, are done for, and all the vines of Rulander and Herbemont are killed to the ground. I have also examined the Pears, and find that the buds are nearly all dead here on the river bank, while in an orchard, elevated about two hundred feet, I found some sound buds.

Cherry buds are nearly all killed. The Raspberries seem to have stood it better than some other things, but I have not examined them closely. The Strawberry plants were nearly covered with snow when the coldest weather occurred here, the mercury standing at 30° below zero. Now, January 28th, there is an indication of a thaw.—S. MILLER.



A NEW LADY'S-SLIPPER.

"The ordinary, common Balsam," says the *Gardeners' Chronicle*, "is one of the greatest favorites in the plant way gardeners possess, but it is a question if it is destined to occupy that position long, as, just lately, a new kind has been discovered, and is now being sent out under the name of *Impatiens Sultani*, and a very valuable thing it is, as it is not only exceedingly showy and brilliant, but it has the additional merits of being easily grown, and is, more or less, almost continuously in bloom. Although strictly a stove subject, it is sufficiently hardy to live and do well in a greenhouse or conservatory during the summer and autumn, and it is said even to succeed bedded out, but of that I have as yet had no experience. In habit the plant is very neat and compact, and has short-jointed, succulent stems, which branch freely, and flower from the axils of every leaf as they form. The blossoms are not like the well-known Balsam, but flat, having a long spur, and in color they are of a bright, rosy-scarlet, pleasing to look on." The plant is easily propagated by seeds and cuttings.

A late number of *Revue Horticole* gives a "colored plate of the plant, by which it appears to be very showy and pleasing. And this journal remarks: "Although this species is a native of Eastern Africa, it grows very well in the open air during summer, and if placed in light soil and given frequent waterings it develops vigorously. Contrary to what might be expected, dry and warm locations much exposed to the sun are not favorable to it; on the contrary, a position slightly shaded suits it better, and in these conditions the plant develops more vigorously, and its flowers and leaves are very much larger and more beautiful."

ROSE MILDEW.

The *Journal des Roses* publishes a communication in which the writer states that the mildew that injures the foliage of Roses can be destroyed by the use of common salt. The following is a translation of his account of his own trials with this remedy: I took, at first, six and a half pounds (3 kilos) of salt dissolved in twenty-six gallons (100 litres) of water. I syringed my Rose bushes with this salt water, and the next day I noticed a remarkable improvement. The next day I took three pounds and a quarter (1½ kilos) of salt to twenty-six gallons (100 litres) of water, and re-commenced the operation of the evening before the last, and as a result my plants were entirely rid of that detestable disease which is the despair of Rose growers. I continued my experiment, and even for a month after syringed with salt water. Whether this was necessary or not I do not know. I have never since seen any mildew, and my plants were rid of it at a slight expense.

FLORAL SUNSHADES.

"VERONICA," writing in *The Garden*, says: "Floral sunshades are, as we learn, the latest innovation in flower fashion just now in Nice, where the 'ladies are using parasols composed entirely of natural flowers, so that their sunshades resemble nothing so much as gigantic bouquets stuck on sticks. The stalks of the flowers are woven together, so as to form a network of bloom, the inside being lined with silk. One parasol is made entirely of Violets, with a bordering of Jessamine; another of Geraniums, white and red in rows, fringed with Maiden-Hair Fern; another of Pansies, and so on. When the flowers fade the parasol has to be made up again, generally at intervals of two days. We always

thought our New York friends a little extravagant in their flower torture, nor could any one persuade us to admire the great massive crosses, anchors, wreaths, and wedding bells affected by some portions of American society; but even there they do not, I believe, expose their beautiful flowers on sunshades to wither and die. I hope that it is only some ladies, and of those only a few, that degrade nature's flower gifts in this way. A friend to whom I showed the above paragraph said she should as soon think of skewering a living dove or a lark in her bonnet as of abusing lovely flowers wholesale in the manner that I have just indicated."

WEATHER IN AUSTRALIA.

We are just emerging from, for us, a very protracted winter, at which we don't grumble much, however inconvenient, as with us, in this topsy-turvy world, it is to stave off the summer just as you, in the northern hemisphere, dread the winter. The present stretch of cold, wet, boisterous winter weather, at this period, November 15th, is very exceptional in its continuance, and I am inclined accepting an old saw, based, in all probability, on a lengthened experience and observation, to think it will last the month out, and vegetation will be proportionally retarded in its progress. The dictum I refer to goes thus:

*"Quarto quinta qualis,
Tota luna talis,"*

which may be Englished somewhat after this fashion:

*"As is the fourth and fifth days' weather,
So's that lunation altogether."*

Our ancestors probably knew very little of isotherms and meteorological science of the present period, but they certainly had some mode of working the "rule of thumb" in many matters, where a result might be arrived at by close observation.—S. W. V., *Melbourne, Australia*, Nov. 24th, 1883.

THE WINTER IN ENGLAND.

Unlike the winter we have just passed, that of the British Islands has been remarkably mild. A correspondent of the *Gardeners' Chronicle*, in the latter part of January, writes: "Amongst the striking evidences of the open, mild nature of the midwinter months, none is to me so re-

markable as the sweet singing of the birds. It is not at all unusual to hear a lark singing high up in the air, just as though it were the month of May, and its mate were nestling its eggs in the bosom of mother earth. But, even from New Year's morning till now, without exception, a beautiful Thrush has been singing gloriously in a near Oak tree, where, perched on the topmost branches, it carols forth in rich and powerful notes its orisons to the rising sun." Another writer in the same journal, says: "In taking a retrospective view of the season, it seems marvellous to think that Christmas has come and gone, and that we are in the middle of January, with Perpetual and other Roses still flowering on a continuation of last year's growth."

THE WAX PLANT A WALL PLANT.

Curious examples of an admirable method of utilizing the back walls of a heated greenhouse may be seen at the Royal Nursery, Feltham, England, where Mr. ROBERTS has converted *Hoya carnosa* into a pure wall plant, by cutting holes in the wall at intervals of four feet, and about two feet from the rafters, and placing into these plants turned out of small pots. The holes are small, scarcely large enough, indeed, to get both of a man's hands into comfortably, and yet in these mere crevices the Hoyas have rooted and made remarkable growth; in fact, there are shoots fourteen feet in length, and the upper portion of the wall is being fast covered. A small orifice is left on the upper side of each hole, into which water is occasionally poured, but the plants really depend for their moisture upon atmospheric vapor and syringing. They bloom most freely, and in their curiously restricted root-space thrive most admirably.

TABLET TO DARWIN.

A mural tablet has just been erected in the Free Christian Church, Shrewsbury, England, by the pastor and members of the congregation, upon which is the following inscription: "To the memory of CHARLES ROBERT DARWIN, author of *The Origin of Species*. Born in Shrewsbury, February 12, 1809. In early life a member of, and a constant worshipper in this church. Died April 19, 1882."



PLEASANT GOSSIP.

"PANSIES—FOR THOUGHTS."

To-day I've been gathering Pansies,
And I fancied the beautiful things
Were thoughts of the angels sent earthward,
On golden and purple wings.

For each blossom seemed to be trying
To whisper something to me,
As if they had brought a message
From one whom I long to see.

I bent down over the flowers,
That of all I love the best,
And something stole out of each blossom,
And gave me thoughts of rest.

And, so, I cannot help thinking
That my fancy may be true;
Oh, dear ones, dwelling in heaven,
Did they bring me a message from you?

I love to think that the angels
Lean over the wall at night,
Looking down to earth, remembering,
And give these thought-flowers flight.

Remembering, even in heaven,
The love of the lower land,
Full of the strange, sweet longings,
Heaven helps them understand.

O, beautiful, beautiful Pansies,
Are your thoughts from the world of God—
From the hearts we covered over,
Long ago, with the grave's green sod?

I believe they remember forever,
The dear ones whom we miss,
And they send by the Pansies a message
From their strange, new world to this.

I believe they remember forever,
I believe they love us yet.
In earth, in the grave, or heaven,
Can the loving heart forget?

—EBEN E. REXFORD.

WILD ONIONS.

Will you please inform me if there is any way of exterminating Wild Onions? We have been trying for three years to get our little place of ten acres in grass, but cannot succeed on account of them.—MRS. J. K. P., *Knoxville, Tenn.*

There is no better way than to plant the land with some hoed crops, and keep it absolutely clean, cutting every Onion spear as soon as it pierces the surface of

the soil. If this course is followed strictly for two years, but little of them will be seen after that. This course involves both care and labor, as it will not do to allow any plants to make a growth; in fact, their coming should be anticipated, and the sprouts be beheaded before they have a chance to see the light. To accomplish this there must be diligence in season and out of season. Another way is to keep the ground fallow for two years, plowing and cultivating it so frequently that nothing will have a chance to grow.

PLUMBAGO—AUSTRALIAN TREES.

A correspondent in the January number complains of *Plumbago Capensis*, but I consider it a great acquisition, and very easily managed. It blooms well in the garden, and after resting has had several blossoms, and is growing vigorously in preparation for more.

Of six kinds of Australian seeds you sent, I have seven plants of *Eucalyptus Stuartiana*, varying from one to eight inches in height, bearing light green, opposite leaves. From three seeds of *Sterculia diversifolia* I have two plants which look like small trees, with dark green, lanceolate leaves. Should they be planted out in the spring?—MRS. L. T.

As both the *Eucalyptus* and *Sterculia* are trees, and in their native localities attain a large size, and are tender here, it will probably be best to keep them in the pots, shifting to larger ones as growth demands it. In summer the pots can be plunged in the open border, care being taken to water properly. In this way the plants can be raised to a considerable size, and be kept as long as thought proper.

SEA ONION.

Can you tell me if there is another name for the Sea Onion, and what it is?—S. E. P., *Lowell, Mass.*

The plant most commonly known by the name, Sea Onion, is *Scilla maritima*, and this probably is the one referred to.

HOYA AND CEREUS.

Can you tell me how to treat the Hoya to make it blossom? What kind of soil does it need? I have a plant of it three years old and it has not blossomed yet. Would cutting back do, or not?

I have a Night-blooming Cereus of one year's growth. How long will it take to bloom, and can it be hurried any? It is the round, straight kind, and grows very tall. We have another Cactus with a wide, flat leaf. Any information in regard to the treatment of these plants would much oblige—I. E. H., *Otsheh, N. Y.*

A proper soil for Hoya is one part sharp sand, one part leaf mold, and three of loam. During winter the plant can be kept rather dry, and in ordinary greenhouse temperature. In spring it should be given heat, a temperature of 70° to 85° being maintained, if possible, and it will continue to grow nearly all summer; at this season it requires plenty of water.

The Cereus and the flat-leaved Cactus mentioned should have a light, sandy soil, be kept dry and warm during winter. When these plants are making their growth they like a high temperature and plenty of moisture.

MYRTLE NOT BLOOMING.

Will you inform me, through the pages of your MAGAZINE, why a Myrtle which I have had for nearly seven years, having brought it from England, a mere little sprig, should never have a blossom, though it has increased in size. I have kept it in a conservatory at about 50° during the winter, planting it in the open border during summer. What treatment will make it bloom?—C. M. B. S., *Streetsville, Ont.*

The treatment of this plant has apparently been proper. The only suggestion to be made is that in future, instead of turning it out into the ground, it remain in the pot, which should be plunged below the rim in the open border for the summer, special care in this case being taken to provide it water.

TREE PÆONY—LAURESTINUS.

Is the Tree Pæony hardy? Will it stand our Illinois winters without protection? Mercury dropped to 30° below zero in this section at one time during the past winter. Does this shrub stand the hot summer sun well, or will it do best in partial shade? What kind of soil is best adapted to the growth of the Tree Pæony?

I have a Laurestinus which I procured three years ago. The plant has grown well and looks thrifty enough, but has never bloomed. I have treated it as a window or pot plant, and it is, to-day, nearly four feet high. How would it do to lift the plant from its pot and set it out in the open border, next spring?—J. P. C., *Manito, Ill.*

The Tree Pæony is hardy here where we rarely have as low a temperature as 20° below zero. Whether it will stand

ten degrees lower, unprotected, we can not say. We plant it out where it is fully exposed both to sun and winds, and find it a handsome and valuable low-growing shrub. Some of our readers in Illinois probably have this plant, and may be able to give the information desired.

The Laurestinus will probably commence to bloom next winter. It may be set out in the ground as proposed, or the pot containing it be plunged in the border during summer.

RASPBERRIES LIKE VINES.

Is there such a thing as a Raspberry that grows like a Grape vine, runs over a trellis, and has ripe berries on from June to September? We had a peddler here last fall trying to sell such Raspberries, also Rhododendrons and Azaleas that would live out in the yard through our cold, windy winters.—AN OLD SUBSCRIBER, *Freedom, Ill.*

We feel as if our sins of omission will be counted heavily against us if an old subscriber can ask the above questions. Whatever else may be said of the tree pedler, it must be acknowledged he has an admirable knowledge of human nature.

AMARANTHUS.

I wish you would say something about the Amaranthus, which I cannot induce to thrive.—N. C. H., *Wheeling, W. Va.*

It is best to sow seed of most varieties of Amaranthus in a hot-bed, and afterwards to transplant them, and get strong, thrifty plants before setting them in the open ground, which should not be done until the weather is warm and settled; they will then take care of themselves without much attention.

INQUIRIES AND ANSWERS.

So many interesting articles are supplied that quite a number of inquiries intended to be answered this month have been postponed until our next issue; some others, answers to which will be as well still later, may be further delayed. Quite a number of inquiries of the same nature as some replied to in this number will not appear, as the answers here given are applicable to them all. A large number of inquiries requiring early answers have been responded to privately. To the best of our ability we stand ready to do service to our readers in this manner as may be desired, and shall try to disappoint none.

NEW YORK HORTICULTURAL.

This society seems to have incurred the displeasure of the clerk of the weather, for of late the days appointed for their monthly meetings have been cold, very stormy, and decidedly unfavorable, and Tuesday, February 5th was no exception to the rule. But a liberal and a varied premium list had the effect of drawing together a considerable number of exhibitors, who contributed most liberally, and when the doors were thrown open for visitors, they were all astonished at the varied and wondrous display within.

In the amateurs' division the chief attraction was a grand display of cut flowers of *Strelitzia regina*, *Dendrobium nobile*, *Lycaste Skinneri*, *Phaius grandiflorus*, *Phalænopsis amabilis*, and other varieties of Orchids. Some idea of this collection may be formed when we mention that the spikes of the *Phaius* contained from forty to sixty flowers on each, while those of the *Phalænopsis* contained from seventy-five to one hundred flowers; this display was contributed by THOS. EMERSON, gardener to W. B. DINSMORE, Staatsburg, N. Y.

W. H. CLEMENTS, gardener to Mrs. M. J. MORGAN, obtained all of the leading prizes for Orchids in pots. In this collection were noticeable fine specimens of *Cypripedium Harrisianum*, *Dendrobium Dominii*, *Cattleya amethystoglossa* and *Dendrochilum glumaceum*, the latter obtaining the prize for the best single specimen. A few handsome specimens of the *Dracæna Goldieana* added to the attractiveness of this display. W. HAXTON, Clifton, S. I., contributed a fine spike of the rare *Schomburgkia aurantiaca*, and JOHN FARRELL, gardener to WM. BURR, Orange, N. J., a well grown plant of *Begonia glaucophylla scandens*, also one hundred Marie Louise Violets, the individual flowers being large and well colored, this contribution receiving the premium. M. J. EDMONDS, gardener to JAS. MCCREERY, Inwood, N. Y., contributed six *Cyclamen Persicums* grown in five-inch pots, each plant containing over seventy-five fully expanded blossoms, and one of the most select collections of Carnations, cut flowers, ever exhibited; for size and coloring this exhibition could not be excelled. Mr. EDMONDS was rewarded with two premiums, both of which were well deserved. E. J. WILDE,

gardener to J. T. SWIFT, Morristown, N. J., contributed a fine collection of forced vegetables, consisting of Early Snowball Cauliflower, Early Scarlet Turnip Radish, Early York Tomatoes, and two dishes of remarkably fine Cucumbers, as well as some fine vases of Roses well colored and of good size, his *Cornelia Cooks* deserving special mention.

JOHN EGAN, gardener to H. B. HYDE, Bay Shore, L. I., exhibited some fine La France Roses and a vase of *Mignonette*, which was conceded by all to be the finest ever exhibited at this season of the year.

In this division two meritorious collections of cut flowers were exhibited, one by GEO. LUCAS, gardener to S. L. M. BARLOW, Glen Cove, L. I., the other by CHAS. E. PARNELL, gardener to W. D. MANICE, Queens, L. I. In Mr. LUCAS' collection were nice vases of *Plumbago Capensis*, *Inga pulcherrima*, *Crinum amabilis*, *Polygala grandiflora*, *Brugmansia Knightii*, Roses, Camellias and Geraniums, and in Mr. PARNELL's were *Acacia pubescens*, *Bignonia venusta*, *Laurestinus*, *Pittosporum tobira variegata*, *Begonias coccinea*, *nitida* and *manicata*, Camellias, Carnations and Geraniums.

In the professional division the chief attraction was in the Roses, and they well deserved all the admiration bestowed upon them, for a finer display of Roses was probably never gathered together. The twelve *Perle des Jardins* and the twelve *Bon Silenes* of W. F. GUY, seeming to have reached perfection in growth. ERNST ASMUS obtained the first premium for the best collection of named Roses, a premium well deserved. HALLOCK & THORPE, Queens, L. I., exhibited three vases of the new double white Violet, Swanley White, and JAMES TAPLIN exhibited a choice collection of cut flowers, amongst which was a fine spike of *Canna Ehmanii*, several spikes of *Amaryllis aulica platypeltata*. Twenty *Cinerarias*, well grown and well flowered, were exhibited by DAVID CLARK & Son, of New York city, and six pots of *Primula Sinensis* were shown by EDWARD SMYTHE. W. C. WILSON, Astoria, N. Y., obtained the first prize for the best three and six Orchids in pots; in his exhibit were fine specimens of *Dendrobium Pierardi latifolium*, *Cattleya trianae* and its varieties, and in the collection of I. BUCHANAN

were good specimens of *Cypripedium villosum* and *Lowi*. ALEX. S. BURNS, Sixth Avenue, New York, obtained the leading prizes for the best Hyacinths grown in pots, his best six varieties being Charles Dickens, Veronica, La Reine des Jacinthes, Snowball, Bleu mourant and Paix de l'Europe, and his best twelve comprised the above six varieties with the addition of Robert Steiger, Bouquet Royal, Voltaire, Norma, Orondates, Minerva and Themistocles. W. C. WILSON, exhibited six pots of Lily of the Valley, and I. BUCHANAN some excellent Tulips.—VISITOR.

VARIOUS INQUIRIES.

Mrs. F. H. K., would like to know what to do with Lily of the Valley pips after they have bloomed in the house. They should be set in the garden in the spring, and allowed to remain there. They will not be strong enough to force again the next winter. Only strong young bulbs are suitable for winter blooming.

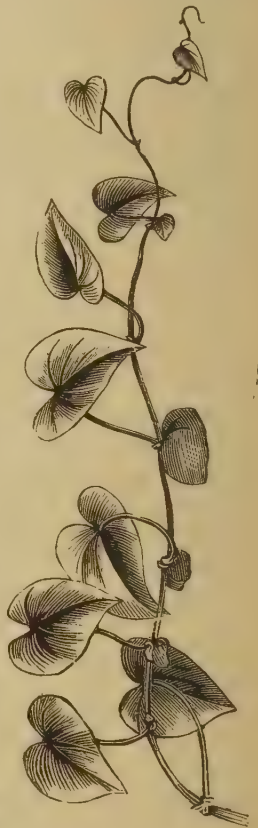
Mrs. O. W. P. asks us to state what is the best fertilizer. A broad question. For most crops good stable manure is the best fertilizer, and in most parts of the country it is the most economical. But for any particular crop on any particular soil only direct experiment can determine whether barnyard dung or some of the commercial fertilizers in the market, or some one more of the chemical salts be most suitable. The rule to be observed by every cultivator is to save and apply to the land all animal manure made on the place, and all wood ashes and bones. Beyond this, each person must rely upon his personal experience and judgment.

E. M. writes, "please tell me how to get rid of moles, as they are very destructive to Potatoes and other vegetables." One way to catch moles is to hunt them in their routes, watching the movements of the soil and heading them off; when caught kill them. And the way is to set traps to destroy them; one called the Isbell Mole Trap has proved valuable, and is not very expensive, being sold for two dollars. The statement accompanying this inquiry cannot be accepted as true, if it is intended to convey the idea that the Potatoes and vegetables have been destroyed by the moles eating them.

Except as moles disturb growing plants, and loosen their roots by burrowing under and through them, they cause them but little harm. These animals subsist upon worms and insects, and by many good cultivators they are encouraged as valuable assistants in loosening and stirring the soil. They are often troublesome in the garden where there are many valuable plants, and only in such a case, or in others essentially similar, is it probably best to interfere with them.

A. B., Antioch, Ohio, has had Tuberose about four years, and not one has bloomed yet. "They come up all right, but do not grow and bloom as they should." A. B. has, also, a climber, and would like to know the name of it, that bears seeds on the vines, like small Potatoes, which when planted grow a little the first season, remain uninjured in the ground over winter, and then grow into strong plants, "resembling snakes, winding around trellises and porches, and the leaves are beautiful in autumn." Tuberose bulbs require to be kept warm during winter to preserve the flower buds enclosed in them. They should be placed away in a dry room where the temperature never falls below 50°, and preferably where it is maintained from 60° to 70°. A rich,

light soil is proper for them, and there will be but little difficulty in bringing them into bloom if they have been suitably cared for during the cold season. The climbing plant is probably the wild Yam, *Discorea villosa*, of which an engraving of a portion is here shown. It produces small tubers in the axils of its leaves. It is an interesting native climber, growing from New England to Wisconsin, and is common southward.



DISCOREA VILLOSA.

Mrs. D. S. C. writes that she has a *Chrysanthemum* which was almost destroyed last season with mildew, and wishes to know the cause of mildew, and a cure. Plants are visited with mildew under various circumstances. Frequently it occurs when they have been subjected to a sudden and great decrease of temperature, especially if accompanied by a cold wind. Sometimes it is due to excess of moisture, and again to the very reverse. Under all these conditions the plants have experienced a lowered vitality before they became the favorite hosts for the entertainment of the various species of parasitic fungi known under the common name of mildew. An important care of the cultivator should be to avoid the favoring conditions of mildew, and to keep his plants in the highest state of vigor. Vigorous plants that at some unfortunate time have been subjected to conditions favorable to breeding mildew upon them, will frequently out-grow it when restored to their normal state, while weak and stunted specimens will, in the same circumstances, be entirely overcome, or else drag out a low and enfeebled life. Sulphur is often employed to destroy some forms of mildew on plants, but with success that is only partial. Flowers of sulphur is dusted on the foliage of Grape vines infested with mildew, and a favorite compound for Roses is made by boiling three pounds of sulphur and three pounds of lime in six gallons of water until it is reduced to two gallons; allowing it to settle until it is clear and then bottling for use. One gill of this mixture is to be diluted with five gallons of water and syringed over the bushes in the evening. On another page will be found something further on this subject from a foreign journal.

"I have," writes Mrs. J. E. H., "an *Amaryllis longiflora* that does not bloom. What treatment does it require?" Also, how must *Smilax* be treated to bloom? The *Amaryllis* mentioned should receive less and less water late in fall, until it has become nearly dry, and in this condition be kept through the winter. The latter part of February, or early in March, it should be repotted in soil composed of three parts of fresh loam and one each of leaf-mold, sand and rotted manure. It can then be watered, placed in the light

and heat; water should be given in increasing quantities as growth requires. In the greenhouse or window conservatory it will be found to flourish with this treatment. Bulbs of *Smilax* potted in August, in fresh loam, such as is formed by decayed sods, and kept in a warm, close place, and watered but lightly until they begin to start, but afterwards more freely, will make a fine growth by mid-winter, and then bloom.

NARCISSUS FARMING.

The Scilly Islands are being devoted to the cultivation of *Narcissus*, being found particularly favorable to it. A writer in *St. James' Gazette*, describing a *Narcissus* farm in one of those islands, says: "Here the plant grows luxuriantly in long rows of beds, and where the shelter is most complete the stalks are sometimes nearly a yard in length. Nothing is much pleasanter for those who care for flower gathering than to spend an hour or two plucking the crisp stalks. They are set side by side in deep, round gathering baskets. Thus collected, they are conveyed to the farm house, sorted and tied in bunches. A dozen stalks go to a bunch, and some little experience is necessary to attain perfection in the art of tying them up satisfactorily. Fifty or sixty or seventy bunches make up each basket, which is then ready for Covent Garden. A prettier farming industry it would be hard to imagine. An additional charm lies in the fact that all these fair flowers are blooming when the days are shortest and dreariest. Then there is something of charm in the reflection that so much floral beauty flourishes within a stone's throw of the Atlantic, when in its wildest and stormiest moods."

BROWALLIA.

This is very desirable both for out-door and in-door culture. There are white, rose and blue; the last is most generally known. It grows more dwarf in pots than in the open border, and being graceful in habit, and a profuse bloomer, it ought to be more extensively grown in the window garden. It came from Brazil and Peru, and was named by LINNÆUS in honor of his intimate friend, but who afterward became his enemy, JOHAN BROWALL, Bishop of Abo, in Sweden.—Mrs. M. D. W.

ASPARAGUS.

The growing interest that is taken in this very wholesome and excellent vegetable, while it has greatly simplified the culture by abolishing the toilsome and expensive preparation of the beds, laid down by the old gardeners, has, on the other hand, introduced some refinements in the plants themselves. Close examination of a bed in the spring shows that the individual seedling plants differ as much as trees in an orchard do, and as the first requirement is to have strong, thick, tender sprouts, only the seedlings that are naturally most vigorous should be chosen. Even the color of the sprouts has its importance. A grower for the London market says that he used to gather and tie separately his dark and light colored sprouts for the sake of better appearance of the bunches when made up of uniform shade. His customers soon showed such a preference for the purple tops, which looked much the best when taken to the table, that he was obliged to extirpate all his pale plants. Many suppress the berry-bearing plants to prevent the annoyance of having the ground beset with seedlings, and also because seed-bearing necessarily reduces vigor.—W.

LETTER FROM SAMUEL MILLER.

Please correct a little error in the January number of your MAGAZINE. I moved to Bluffton, Missouri, from Pennsylvania seventeen years ago. During this time I lived two years at Sedalia, where the James Vick Strawberry originated, and was afterwards brought back here, and now is the most vigorous Strawberry plant on my place. I believe it will take the foremost rank among Strawberries, and be worthy of the noble name it bears. Some say it is not large enough. How could the berries possibly get very large when there are so many of them on a plant?—SAMUEL MILLER, *Bluffton, Mo.*

TEA ROSE, ANDRE SCHWARTZ.

I would be pleased to have some of your subscribers give, through your columns, their experience with the new Tea Rose, Andre Schwartz. A Louisville firm, in their catalogue for 1884, say of this Rose, "we consider it almost

worthless, not even as good as Agrippina or Louis Phillipe." Now, compare this with other descriptions and see the difference! Is it caused by location, soil, climate, or is it the Rose itself? I believe nurserymen, as a rule, to be honest and upright, and will not knowingly deceive their customers, at the same time there is too much of a disposition to specially advocate some things without first giving them a thorough trial. As I read your MAGAZINE for information, I see no better way to arrive at facts than by comparing notes; hence, I would like to hear from those that have given this Rose a trial, then, by comparing locations, we can decide the climatic effects.—C. E. K., *Little Rock, Ark.*

IMPROVED METHODS.

Our people excel in ingenious devices, and in quick, direct ways of reaching their aims, through having the opportunity of seeing the methods used by emigrants from all countries, and of choosing from them the best of all. In the old countries the son follows in the father's ways, generation after generation, without having opportunity to see or to know of any better plan, or even occasion or will to think of any other. Even here, a son wholly trained at home is liable to drift into a similar fixed and stolid groove. Every farmer should endeavor to give his child opportunity of seeing and participating in the methods of others, and this opportunity should be most fully afforded by our modern agricultural schools and experimental farms.—W.

AZALEA AND ROSE EXHIBITIONS.

The Massachusetts Horticultural Society will make an exhibition of Roses and Azaleas at Horticultural Hall, Boston, on the 20th and 21st of March. Competition is open to persons from any part of the country. Besides for Roses and Azaleas, premiums are offered for Orchids, greenhouse plants, forced hardy flowering shrubs and herbaceous plants, Cyclamens, Heaths, Primroses, Cinerarias, Violets, Pansies, Hyacinths, Tulips, Narcissus, Lilies, Lily of the Valley, Camellias, cut flowers, fruits and vegetables. Any special information desired in regard to the exhibition can be obtained by addressing the Secretary, ROBERT MANNING, Boston, Mass.

MOVEMENT OF SAP IN PLANTS.

In a former number we noticed the fact that, contrary to the received theory, the passage of the sap (protoplasm) from cell to cell was not wholly dependent upon osmosis, but that continuous threads of protoplasm had been observed passing through pores of the cell walls. This observation, the *Gardener's Chronicle* says, "was accomplished by first causing the cell membrane to swell up by means of sulphuric acid, and afterwards by staining the section with a solution of Koffman's blue in alcohol, saturated with picric acid, by which means the protoplasm threads are colored. By this process the continuity of, or rather the passage of the protoplasm from cell to cell of the pulvinus, or swollen base of the leaf-stalk, of the Sensitive Plant was demonstrated, as also in the case of the cells surrounding the embryo in numerous seeds. It is obvious that these experiments have an important bearing on the changes in the degree of tension and movements of leaves, &c., as also on many phenomena of nutrition."

SPARROWS, RABBITS AND HARES.

Our correspondent, S. W. VINEY, at Melbourne, Australia, says of the Sparrows and Rabbits which have been introduced into that country from England, that "now the former are perfect pests about gardens, and the bunnies actually anti-malthuse at such a rate that in some places they starve the sheep by feeding off the first of the grass just like locusts. We trap them, poison them, and do them to death in all sorts of ingenious modes, but still they head on us, and nervous people get afraid that by force of numbers they'll 'push us off the edge.' We have really quite a strong force, a superintendent at about £400 a year, and a staff of subordinates, always engaged keeping them under. The hares are still worse, and rind the trees in a most destructive way."

PRIZE ESSAY.

The article, "The Raspberry for Market," page 77, is the prize essay on this subject. The writer of it has had much experience with this crop, and his opinions and statements may be considered fully trustworthy. In our next issue we expect to announce the successful competitors

on all the other subjects for which prizes were offered.

SEEDLINGS IN MARCH.

See, in this southern windowed room,
My hope of future garden bloom;
This narrow box with seedlings set,
Holds a full bed of Mignonette,
And wealth of many a shining plot,
Of Pansies and Forget-me-not.
Nay, do not turn your mocking glance
Toward the desolate expanse
That yonder garden still doth show,
So dreary, under sodden snow.
You think my fondness too elate,
So far the spring to anticipate;
But 'tis your own unpractised eyes,
She fain would cheat in winter's guise;
Well know I, with my nurselings here,
How close in hiding she draws near.
You have not tended growing things,
Nor watched, as I have done, for springs,
Else might you know, dear mocking friend,
Some other things that love doth send,
The tokens of a visiting
More beautiful than that of spring;
It melts the worse than wintry cold,
In which your heart grows hard and old,
Your chill wrap of indifference;
The sad, ungenerous reticence
You hold o'er every tender thing
That would in verdant leafage spring.
I need not watch you close to know
The wealth of living force below
Already feels a soft wind blow.
And lo, a heart more skilled than mine,
In ways of tenderness divine—
A heart that loves you—hath begun,
Where it opes nearest to the sun,
To start full many a tender root,
Your life shall bring to flower and fruit.
In shelter of that warm heart's hope
Already embryo leaflets ope,
And through its faith's clear window-light
Drink in the sunshine, soft and bright,
The while its silent, patient care,
Wards off each breath of ruder air.
So springeth Heartsease, that shall spread
Its smile along the path you tread;
The Morning Glories that your praise
Shall swing above the opening days;
And many a Rose tree's slip, whose bloom
Shall flush the summer hours to come;
And Aster flowers, the stars of hope,
To glad your far-off autumn's slope.
Ah, when some May-day mood appears,
And sense of sunshine brings thy tears,
How quick that loving heart will be
To seize its opportunity;
It will, before thou art aware,
Transplant the seedlings of its care,
With sigh of deep content resign
Them from its keeping into thine;
With gentle skill the softened mold
So safely round each plantlet fold
That naught can loose it from thy hold.
In thy rich nature set at length,
The tender roots shall gain full strength;
In thy strong spirit's freer air
The leaves a deepening color wear;
And seed grown ripe through sun and rain,
Yield ever-multiplying gain.

—M. E. BENNETT.

DR. GEORGE ENGELMANN.

On the fourth of February, just closed, in the city of St. Louis, occurred the death of one whose fame in botanical science and research had gone out into all the world, and whose name stands at the head of this sketch.

Dr. ENGELMANN was a native of Germany, but came to this country while a young man, after having completed a university course of education. After a few years in Illinois, he removed to St. Louis in 1835, where he has since resided, practising his profession as a physician. While residing in Illinois he made himself favorably known to European botanists by the publication of a monograph containing his original descriptions and notes of one of our native plants, which was then nearly or wholly unknown. Since that time he has continuously given most devoted attention to botanical science, rendering it incalculable service, and securing a name which is high authority in many and widely differing families of plants.

Dr. ENGELMANN was seventy-three years old a few days before his death.

A GARDEN JOURNAL.

March 1, 2 and 3. Getting out manure from the stable yard, and throwing it together in a large pile. As soon as it commences to ferment freely it will be thoroughly turned over, when it will be fit for hot-beds, and to be dug in for the spring crops.

5. Shifting plants in the greenhouse by bringing small plants to the front of the stage, so as to get more light and sun.

6. Putting more Chicory into pots to force.

7. Potting off a general collection of bedding plants from the propagating bench; also potting plants that will be used hereafter for hanging baskets and vases.

9. The Cauliflower and Cabbage sown on the 23d of last month were pricked out to-day in boxes. Preparing hot-beds to sow Radish seed.

10. The Tomatoes sown the 15th of last month were pricked out to-day in boxes; also Egg Plants sown at the same time have been potted off into three-inch pots, so as to get strong, early plants for spring.

12. Making some Orchid baskets. Weather very stormy.

13. Sowing Radish seed in the hot-bed. Looking over hot-bed sash, and putting in new lights where necessary.

14. Pruning hardy Grape vines; also putting in the propagating bed cuttings of single eyes of foreign varieties of Grapes.

15 and 16. Repotting for spring blooming choice Geraniums that have not been shifted since last fall.

17. Turning over the manure that was taken out on the first of the month.

19 and 20. Potting of Fuchsias and other small plants from the cutting bed.

21. Potted in large pots Caladium esculentum intended for a large bed in summer.

22. Pricking out Lettuce in the hot-bed from the boxes in which they were sown in the greenhouse in February; also planting Cucumbers that were sown in pots.

23. Putting in Rose cuttings.

24. Putting in cuttings of Hydrangea Otaksa.

26. Finished pruning out-door Grape vines.

27 and 28. Pruning Apple, Pear, Plum and Cherry trees.

29, 30 and 31. Pruning ornamental trees and shrubs on the lawn.

PRESERVING GRAPES.

A French journal gives the following method of preserving Grapes, as described by the inventor of the process: At the end of October cut the bunches with a portion of wood attached. I trim the base of this last to a point, and stick it into a Potato. Afterwards I spread the Grapes upon straw, or very dry hay, and as much as possible so that they do not touch each other. Thus prepared, these Grapes keep quite as well as if the stems were placed in bottles of water.

A SUMMER CLIMBER.

In the summer I want to train some vines up my windows, a distance of fifteen feet. The windows get the afternoon sun, which in this climate is generally very hot, and the vines will have to be planted in boxes. What kind of vines will suit best, and how deep should the boxes be?—L., *Richmond, Va.*

A handsome, quick-growing summer climber, suitable for the purpose mentioned, is *Pilogyne suavis*. Ten inches is a sufficient depth for the boxes. Use fine, light and rich soil.

INCREASING SOME PLANTS.

Can you tell me where to get the plants, *Sphærogyne latifolia* and *Sansevieria metalica*? Can the *Calla* and the *Begonia Rex* be propagated from leaf cuttings? Can the Night-blooming *Cereus* be raised as a window plant? How is the *Cactus* propagated?—J. E. S.

We cannot say where the *Sphærogyne* and *Sansevieria* can be procured. They are hot-house plants, and but little in demand, being of no value as house plants. *Begonia Rex* is increased by starting young plants from the veins of the leaves. The *Calla*, *Richardia*, multiplies by little bulblets at its base. In some windows with proper treatment *Cereus grandiflora* may be reared and bloomed, but the treatment generally given to window plants would not be suitable, the temperature being too low.

Plants of most species of *Cactus* may be increased by cuttings during summer. The cuttings should be allowed to lie for a few days after being taken off, to evaporate some of their moisture, before inserting them in the cutting pan.

WASHINGTON LILY.

I see your correspondents have trouble with *Lilium Washingtonianum*. Some of the complaints coming, as they do from California, are remarkable, as it grows here on any kind of soil without the least trouble, being perfectly hardy in any exposure. The bulbs, however, must be transplanted in autumn, or they will not recover, at least, that is my experience. I plant them about six inches deep, and water them sometimes the first season, after that let them alone.—F. M. S., *Civil Bend, Oregon*.

THE FLOODS.

The loss of human life, the suffering, the destruction of property of all kinds that resulted from the overflow of the Ohio river and its tributaries last year, have been repeated during the past month with all their former severity. We cannot here recount the sad details; our readers have already received them. They appeal to our keenest sympathies, and efficient aid should be rendered the unfortunate sufferers. Hundreds of lives and millions of dollars will figure in the statistics of February's flood, but sorrow and misery that the human mind cannot conceive will forever remain untold and unknown. It appears as if the lower

lands along these streams must be wholly abandoned for residence.

By this terrible flood we have another lesson, fearful in its cost, in regard to the importance of preserving a proper proportion of forest, especially above the sources and along the higher lands adjacent to streams.

BIRD MIGRATION.

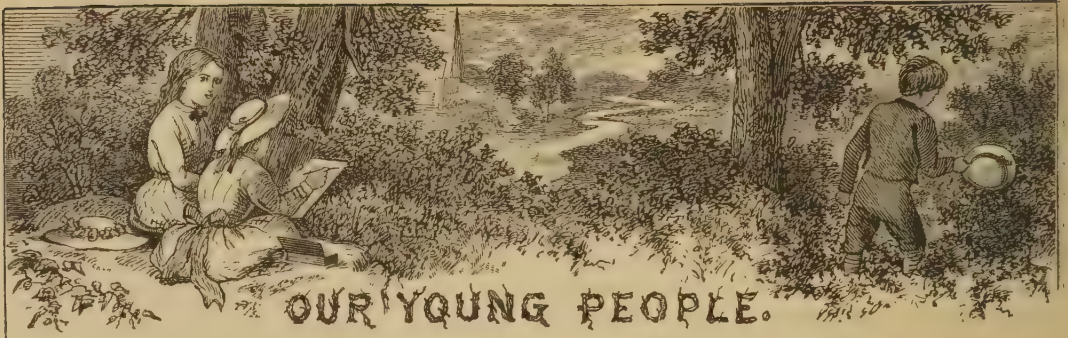
The committee appointed, last fall, by the American Ornithologists' Union, to investigate in all its bearings, and to the fullest extent possible, the subject of the migration of birds in the United States and British North America, desires the co-operation of every ornithologist, field collector, sportsman and observer of nature in North America. Efficient service can be rendered by those familiar with only our commonest birds, and the committee will gladly accept data concerning any of the well-known species. Circulars of information on this subject can be procured by application to the Chairman of the committee on migration, C. HART MERRIAM, Locust Grove, Lewis Co., N. Y.

GOOD CHEER.

This monthly paper, devoted to the interests of the home and family, is becoming widely known. We know of no other publication of its kind that is so good, and for so little money. Its high standard is fully maintained, and each number comes to its readers rich and full of good thoughts from many of the best writers of the country. We are glad to learn that it is appreciated, and that the prospect is that very soon its circulation will reach a hundred thousand. The proper encouragement of such a paper will in some degree diminish the flood of pernicious literature that is spreading over the land. It begins its third yearly volume with the April number. Further information will be found in our advertising pages.

PLANTS DESTROYED.

A correspondent at Charleston, S. C., writes that "during the first part of last month (January,) we experienced the coldest weather that we have had for over thirty years, and in Charleston alone there were probably over one hundred thousand plants lost!"



FAITH.

Dear mother, what is faith, do you know?
I hear people talk about it so;
Is't beautiful to see?
And can you show it me?
I want to have it right, when I grow.

Well mother's little girl, let—me—see,
Come close beside my heart—on my knee;
Where are all the flowers
That blessed the summer hours?
Think how they filled your heart with glee.

You know they all are dead upon the plain,
Have you hope that they will come again,
The pink and crimson Rose,
And all the Lily-blows,
As you used to see them drink the rain?

Why, yes, I'll see them all, mother, dear,
When winter time is gone, they'll be here,
The Buttercups will shine,
And Daisy buds look fine,
When God sends the summer of the year.

Well, that is faith, my child, when you feel
That He is to be trusted for our weal;
And hearts are never cold,
No matter, young or old,
When loving trust is worn for their seal.

—WM. LYLE.

ASKING QUESTIONS.

On a certain June afternoon, in Texas, not an hundred miles from Marshall, Claude, Annette and Grace Morton were playing in a cozy, rustic arbor, formed round the trunk of a tall China tree, whose high branches afforded no reliable shade. Their Aunt Helen was dreamily reclining in her hammock on the broad gallery, enjoying the langorous influence of the semi-tropical atmosphere, while congratulating herself with such mental energy as she could rally, that the children were entertaining themselves so long and so quietly.

The China tree stood in a far, back corner of the yard and diagonally from the house. Not long had Miss Morton thus congratulated herself when Gracie, peeping through the vines, caught a glimpse

of her white dress, and on announcing the same, a little shout went up from a trio of voices, and a triple pair of feet went scampering toward the house. At the same moment there entered the yard a man who spent his time in continual rounds through a wide extent of neighborhood circulating news, and who was tolerated because no evil gossip was ever mixed therewith. As he approached the gallery, Miss Morton assumed a sitting posture, and greeted him with a "How do you do, Uncle Zack?"

"O, kind o' steady by jerks," he answered, whatever that meant, and went on to exclaim, "Look at these young uns! jest on the tight run to meet me! They get gladder to see me every time I come. Thah aint arry nother lot of chil-lern I've tuk sich stock in as in these o' youn's—allus good mannered and showin' thah raisin'."

But the children were so disgusted with being supposed to have rushed pell-mell to meet Uncle Zack, and so disappointed at the delay of the story they had hoped to hear, that they were hard beset to maintain good manners. Gracie at last was quite overcome by the situation, and suddenly retreated, but not until Miss Morton had heard a partially repressed snicker before she vanished. Thus warned she came to the rescue lest the contagion of inexpressible laughter should make a breach in the manners of not only Claude and Annette, but of her own. So she hastily inquired the news. Whereupon Uncle Zack pursed up his mouth, looking very wise, and walked to the broad steps, giving a backward look under the house as he took his seat, (the house being set up on "piles," as is common in the South,) laid down his broad Palmetto hat, of his own making, and commenced, not to detail news, news would keep, but

to talk about the great amount of "sorry" Cotton (as a poor crop is called,) that he had observed in his recent rounds, thus comfortably prolonging his stay.

"Thah's not b'en the like afore for fifteen yeahs," he said.

"Is 'sorry' Cotton good for any thing?" inquired Miss Morton, while Claude, who had scrambled into another hammock with Annette, whispered, "Aunt Helen's going to 'ask questions.' Listen!"

"Yes, indeed, Miss Mo'ton; our 'sorry' Cotton is as good, they say, as the best West Indies. But the Sea Island Cotton is best of all."

"Why is it, Uncle Zack?"

"Well, chiefly for its long fibre, an' bein' smooth an' strong. I 'spose your brother's went to sell his Cotton at last; I see the sack's gone from under the house."

"Yes, his long illness made him late in getting it off, this season. We expect him back, to-night, but not till late." (Uncle Zack understood.)

"Wa'll, I reckon thah was a string of darkies with their Cotton, a follerin' of him, like common, so's he could see as how they got fair play from them thah sharks of speculatahs. They'd a' waited if he hadn't gone till fall. Poor, dear wretches! I don't wondah they want to foller in the shadder of an honest man! Now, thah's Tom Snydah, so rich that he kin sell or hold on; an' he says his Cotton may lay under his floors ten yeahs afore he'll sell for fifteen cents. Says he wouldn't keer so much if thah was any thing to do with money when he gets it; but that it makes 'im jest mad to stuff his Cotton into northern made sacks and sell it for twelve to fifteen cents a pound to go north and be made into thin, sleazy goods, such as Jew peddlers will buy in Orleans and Shreveport, and bring here for we-uns to pay big prices for. Yes, he says his Cotton kin jest lay. He got twenty cents for it oncet, an' he'll wait till he kin get it agin."

"Does he leave the seeds in it?"

"Of cou'se not. He sends the Cotton to a gin mill to clean it out, and uses the seed like the rest of 'em, to mix with thah hoss an' cattle feed, an' some of it he lets rot to richen his Co'n hills, when he raises any Co'n. He wont sell the seed to the oil mill agents, kase it saves buyin' so much northern Co'n; and so he

goes on scolding about the southerners bein' imposed on, havin' no baggin' an' Cotton mills here whah we 'make' the Cotton."

"Yes, but Mr. Snyder knows," rejoined Miss Morton, "that manufactories are being established in different parts of the south, and that intersecting railroads are quite near us already. And why don't he and a few other monied men form a stock company and build a mill near a railway, and thus make a home market for our Cotton, and give our working classes the benefit of the industry!"

Then Uncle Zack cocked his head to one side, shut one eye and squinted the other, while he said:

"Wa'll, Miss Morton, I kin tell ye why; they're afeared. They don't, one of 'em, know arry a thing about sich business, an' they're too sharp to trust a Yankee boss to build a mill an' run it with thah capital invested. Don't you see, Miss?"

"Yes, I see; and in that case, wealthy northerners will be coming down here with their enterprise and money, and build mills and be the owners thereof, the while our rich planters are complaining that there's nothing they can do with their money."

Claude now made a break in the conversation by inquiring of Uncle Zack if he knew any thing about rocks.

"Rocks? thah's some great flat rocks on high ground, a long stretch from here, that people do say was split from eend to eend at the time of the crucifixion; but I dunno whethah it's so."

"Ho! I don't mean that kind; I mean the colored stones and pebbles, and sometimes a rock, that are all around here in this light-looking soil. Aunt Helen says they were not made here, and so I want to know how they got here."

Uncle Zack seemed lost in bewilderment for once; and so Claude went on:

"You see, there's every shade of red and reddish-brown, and a few that are yellow and orange colored; some of all the shades are soft as chalk, you know, and Annette and I have made colored drawings with our paint chalks, as we call them, and have got new shades by mixing them together. But the strangest part, Uncle Zack, is that some of the hard, red stones have smooth hollows in them filled with fine powder of the same color. I'll get my specimens to show you." And away he ran.

Then Miss Morton asked Annette to show her picture of different colored Daisies, made from the paint chalks. But Uncle Zack, on seeing it, rolled up his eyes and spread his hands in such an excess of admiration as to prove too much for Annette's gravity, and so, when Claude returned, she hastily beat a retreat. Miss Morton observing Uncle Zack's embarrassment at not being able to say one word as to the origin of the stones, came to his relief by telling Claude that she had recently been reading a book whose author had collected a number of ancient legends of different peoples, to the effect that the earth had once been visited by a destructive rain of vermilion pebbles and fire from a comet, and that the glacier theory is all a hoax, etc.; which was endorsed by Uncle Zack, with great emphasis.

Claude was at once open-mouthed for a volley of questions, but his aunt told him to wait and listen while she asked Uncle Zack a few more herself. Then, turning to him, she said:

"We none of us know everything, but I am sure that you know why Cotton is raised so exclusively in this section, when it is evident from the trees, shrubs, flowers and weeds that thrive so well, that other things will grow too."

"Yes, I kin tell ye why," said Uncle Zack. "The poorest land that wont make more'n seven bushels of Co'n to the acre will make one-third of a bale of Cotton, wuth twenty-five dollars at fifteen cents a pound. And good Cotton land will average five hundred pounds of ginned Cotton, that's a bale, which will average fifteen cents a pound, making seventy-five dollars to the acre. So, you see that Cotton is 'king' an' queen, too, an' the hull royal family throwed in." And he fell to chuckling immoderately at his own witticism.

At this crisis, Mrs. Morton appeared, after her restful siesta, and Miss Helen, giving her the wink, remarked, "And so, Uncle Zack, you've got no news for us this time?"

"Wa'll," he said, "I reckon I haint got much of a grist, but it'll toll out better'n some. You know old Doc. Temple has be'n a widower nigh onto forty yeahs; was married when he an' his gall, Ameriky Dean, was about seventeen yeahs old. 'Twas easier gittin' married in them

days than now. Wa'll, last night, thah was a big party at Col. Craig's, and the Colonel's sister, Miss Craig and Doc. Temple walked in together all of a sudden, an' Parson Blake, he jumped up an' spliced 'em, 'fore anybody could say 'Hail Columby.' When they was at supper, Doc., he up an' told 'em that he only got married tother time so's to git to eat at the fust table. But thah comes 'Squire Jones; I'll jest go out an' ride on with him a bit. Good evenin', ladies, good evenin'." And waving his broad palmetto with a great flourish, Uncle Zack departed.—AUNT MARJORIE.

YOUTH'S LETTER COLUMN.

The following extracts are from a letter that comes from afar. We value such when they contain items of interest. Are glad to know that some of the young readers of the MAGAZINE have opened a correspondence. That is just as it should be.

I have concluded to write you again, though I don't expect it to be published. I have been attending school for three months, four or five miles from home, and boarded with my teacher. I am sixteen years old, and would like to attend school at Cheney and graduate, for it seems to me I wont have much of an education unless I do. I have received two letters from the readers of VICK'S MAGAZINE. We have had but little bad weather here, this winter, and it is beautiful now. I will tell you something about Medical Lake; its waters are medicinal, and are said to cure nearly all diseases. The town stands on the banks of the beautiful lake, and near the opposite shore the water is said to be ninety feet deep in some places. The town is a summer resort for invalids and others, and the patronage supports three hotels and several bath-rooms. I may write again soon, if I find anything interesting to your many readers.—MISS CORA SALNAVE, *Stephens, Washington Territory.*

FLORAL PREACHERS.

O, Violets fair, and Pansies bright with bloom,
Thy lovely faces take from earth its gloom;
Thy fragrance fills the air with odors sweet,
Reminding me of spring, whose fairy feet
Will soon be hastening over hill and dell,
Waking the frozen earth from winter's spell.
Fair flowers, bright harbingers of sunny spring
Its wealth of bloom, its birds that sweetly sing
The whole day long, flooding with melody
The earth; all this, dear flowers, ye bring to me.
Thy subtle fragrance permeates my soul,
Which gladly yields itself to thy control.
And 'neath thy spell I lose all thoughts of care.
Fair flowers! God's preachers are ye, everywhere.

—LILLA N. CUSHMAN.

OUR first wild flowers at the north usually appear some time this month. Who will notice them?



LITTLE NUT-CRACKERS.

It would not be easy to find a more skillful nut-cracker than the Squirrel, for no nut proves too hard for his sharp teeth, and, as he makes the great forest his home, he has opportunity for satisfying his hunger with this dainty food.

His paws are furnished with four toes, and what might be termed a thumb, therefore, he uses his paws as a person does his hands, and thus readily holds nuts while cracking them with his sharp teeth.

Squirrels are found in most parts of the world, and there are many species, though there is much similarity in their general characteristics.

They are pretty creatures, and much of their beauty is due to their long, bushy tails, which are usually carried in arch-like fashion over their bodies.

Their fur is long and silky, and as it also thickly covers the ears, these extend in high points above their heads. The

fur is variously colored, some of a reddish brown, some white, others gray, while another kind is black.

They are exceedingly inquisitive little creatures, and of very quick movements, nimbly bounding from branch to branch of the trees, and so swiftly can they run that their movements are hard to follow.

They are not pleasant neighbors for the farmers, as they can do much mischief in both grain-field and garden, loving to eat the tender shoots of plants or vegetables.

They, like the birds, build their nests in the trees, and the daintiest of nests they are, of moss, twigs and leaves, all intertwined, making them soft and beautiful.

The place selected for their home is usually high above the earth, in the fork of a tree where they may be safe from danger. They make their winter store-rooms always near their homes, and there they safely keep their treasures; for they gather large quantities of nuts, and hide

them away in holes in the earth, or beneath the roots of trees, that they may have a supply of food for their winter use. They also gather various grains, and the seeds of Fir trees.

Squirrel furs are often used for lining or trimming warm winter garments, but the fur of the Gray Squirrel is the favorite for this purpose. When tamed, Squirrels are interesting as household pets, for their beauty, and their pretty, curious ways cannot but be pleasing to all.

They are creatures of great activity, and are scarcely ever quiet unless sleeping.

They are easily tamed, and will, in that case, prove themselves most entertaining little companions.—M. E. WHITEMORE, *New York*.



PATTON'S AMERICAN PEOPLE.—This work, lately issued by FORDS, HOWARD & HULBERT, 27 Park Place, New York, fills a place unoccupied by any history of this country. The author is JACOB HARRIS PATTON, A. M. Although the principal events of the early colonial, and the later wars, are accurately described, they are not made the overshadowing topics, but the industrial, commercial, political and moral developments of the people, from the first settlements to the present administration, are carefully, conscientiously and skillfully traced. We learn from it how the people of this country have lived from the beginning, what they have thought, how they have felt, and what have been their objects and desires. In the highest sense it is a history of the people of the United States, related in an elegant and pleasing style, and with faithful accuracy. It can be recommended for school and village libraries, and our young people can do no better by themselves than to read it and use it for reference. Ninety-eight full page portraits of representative men of this country adorn its pages. Several valuable maps, tables, statistics, notes, &c., add much to its value. The whole consists of about fourteen hundred pages, octavo, and is bound in two volumes. Price, in grained cloth, \$6.50; half morocco, \$10.00.

JUDGE TOURGEE'S NOVELS.—Whoever has read "A Fool's Errand," or "Bricks without Straw," need not be reminded of the power and interest in the other volumes by this famous author; and those who have not read them may be assured that a rich treat awaits them in their perusal. "Figs and Thistles," "John Eax," "Hot Plowshares," and "A Royal Gentleman," are equally creditable to the writer, and establish his reputation as one of the first living writers of fiction in this country. They are published by FORDS, HOWARD & HULBERT, 27 Park Place, New York, at \$1.50 each, excepting "John Eax," which is \$1.00.

IN THE ORIENT.—Those who wish fresh and vivid descriptions of scenes in the Holyland, with special

reference to biblical occurrences, will be pleased to read the "Travels and Observations in the Orient," by WALTER HARRIMAN. The volume, one of three hundred and sixty pages, also contains notes of a "hasty flight in the countries of Europe," all of which are interesting and spicy. The author is an ex-Governor of New Hampshire, the State where they build school houses and raise men. The State has no cause to be ashamed of its product in this case, nor the author of his book. Published by LEE, SHEPARD & CO., Boston, at \$1.50.

EDUCATIONAL.—Purdue University, of Lafayette, Indiana, is an institution that gives particular attention to the natural sciences, and provides four courses of study, consisting of the agricultural, the mechanical, the industrial art, and the science courses. Those parents desiring to give their children practical training for life-work will find Purdue University supplied with an able faculty, and well equipped with the necessary buildings, apparatus, cabinets, museums and library for systematic and thorough training. A catalogue with full information may be obtained on application to the President of Purdue University, Lafayette, Indiana.

ENTOMOLOGY.—A copy of the "Author's Edition" of the report of the entomologist, CHARLES V. RILEY, M. A., Ph.D., for the year 1883, has been received. It is a most interesting and valuable publication upon the subjects of which it treats. The cause of agriculture and horticulture throughout the country is receiving substantial benefit from the studies and experiments of Prof. RILEY, and we trust for the good of all that he may long remain in the government position which he now so signally honors and adorns. Prof. R. also has our thanks for bulletins, Nos. 1, 2 and 3 of the division of entomology of the U. S. Department of Agriculture.

ARCHITECTURE.—In the interests of tasty and handsome architecture we may say that PALLISER'S Useful Details will be found of great value to builders. Volume one consists of forty plates nearly two feet square, containing a great number of drawings representing beautiful designs of porches, gables, brackets, verandas, gates, fences, wood mantles, doors, bookcases, staircases, cornices, extension tables, counters, toilet stands, sideboards and many others. Price \$3.00. PALLISER, PALLISER & CO., Publishers, Bridgeport, Conn.

BOTANICAL.—A fifth and revised edition is issued of "The Book of Plant Descriptions, or Record of Plant Analyses," by GEO. G. GROFF, A. M., M. D., Professor of Botany in the University at Lewisburgh, Pa. It cannot fail to be of essential service to all who use it. Students in classes, or solitary, can employ it with equal advantage. Published by the Science and Health Publishing Co., Lewisburgh, Pa., by whom it will be sent, prepaid, on receipt of 30 cts.

MASSACHUSETTS HORTICULTURE.—We have received a copy of the "Transactions of the Massachusetts Horticultural Society for the year 1883, part 1." It consists of a hundred and fifty odd pages of very valuable and interesting horticultural matter. Mr. ROBERT MANNING, Secretary of the Society, will please accept our thanks.

THE ORNITHOLOGIST AND OOLOGIST.—This 12 page monthly, devoted to birds and their eggs, is published at Pawtucket, R. I., by FRANK R. WEBSTER, at one dollar a year. Those interested in the scientific aspect of these subjects will find in it much of interest.